

SCIENCE AND THE WORLD-MIND

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TO begin with, I am going to repeat once more certain statements of fact that I have made over and over again in the past few years. To me they seem to be of such vital importance that they override anything else it is possible to say about life or the world at the present time. But it is manifest that to most people who have heard them they carry no sort of significance at all. They do not discuss them. They do not dispute them. They simply carry on as though nothing had been said.

This "word-blindness," this possibility of talking unheeded, is the matter I am going to discuss in this paper. I want to concentrate attention upon the fact that what I will call the "world-mind" is not really a co-ordinated mind at all; that it is a gabble of unheeded and inconsecutive utterances; that we are saying and shouting things to one another and not heeding one another; that if some vast super-human intelligence away in space were to ask, "What is Man, *Homo sapiens*, thinking now?" the answer would have to be: "He is in a fever."

He is delirious. He has muttered all sorts of things in the past, but now he is waking up very painfully and he talks louder."

"To what purpose?"

"None. He just says one thing after another and does not pause even to consider what he himself has said."

Let me return again towards those reiterated words of mine that manifestly fail to convey anything to anybody.

First. The conditions of human life have undergone a fundamental revolution in the past forty years. These conditions have changed so fundamentally that *Homo sapiens* cannot go on living as he has been doing in the past few score thousands of years. Like any other species of animal, he has to adapt himself to these changes in his conditions, or perish as a species. He may be extinguished altogether, or he may undergo modification into a new species or new species. There is no question of his remaining as he is. The question is whether he can adapt himself with sufficient rapidity to become either a progressive super-*Homo*, an ascendant species, or one or a series of degenerating sub-human species, or whether he will fail altogether to adapt himself, and end altogether.

Forgive me if I expand a little here and remind you of certain ecological truisms.

The record of the past is on the whole against the idea of any survival whatever for the human strain. In the past, dominant orders, groups and species have generally vanished from the earth at the very crest of their domination. It is an old-fashioned ecological misconception that they have been competed out of existence. They have simply failed to adapt. Their first response to changing conditions has been a wild release of mutations—mutations some of which prevailed for a season, but had no long-term survival value. This happened, for example, to the Deinosaurus and the Deinotheria. They ended on a crescendo, and went.

Is there anything in the case of this creature we call *Homo sapiens* to justify our belief that he will have a different fate? There is. And it lies in his gift of speech. Almost entirely, but not entirely, in that. He can be told things. He can listen and learn. No other animal can do that. He can adjust himself a thousand times more rapidly than any other animal. Every generation of *Homo sapiens* can learn the mental adaptation that has been imposed by altered conditions upon its predecessor. It can meet

altered conditions, if the alteration is not too extreme, with an altered tradition of behaviour. If the alteration had not been too extreme.

So, through the past few thousand years that constituted the career of this peculiar animal, he has kept pace with his changing conditions. Inventions and discoveries have transformed war and economic life alike, and enlarged his social groups, but not too rapidly to exceed his power of mental adaptation. Up to the year 1900 he has increased in numbers and dominance over the rest of life upon this planet with a swiftness transcending any previous phase of animal evolution. A million years ago the various species of the Hominidæ were a group of rare, infrequent animals. In that brief interval of geological time, one of these species has emerged from that obscurity to become, as we say, Lord of Creation. And in the very crescendo of his predominance, he has sown with an equal swiftness the seeds of his own biological disaster.

Let me return now to my statement of what has happened in the past forty-one years.

First, chiefly because of aviation, the radio and associated means of communication, there has been what is called an almost complete

abolition of distance. Events are known almost simultaneously throughout the world. For good or evil, men can get from one end of the earth to the other in a day or so. With bombs or drugs or any other commodities. The distances that justified the separate sovereign governments of the world have vanished. They overlap to the full extent of each other's boundaries. We live on each other's doorsteps. Materially, mankind has become one community. In 1900 it would have been physically impossible to administer human affairs as one comprehensive peace system. Governments could keep the peace over very considerable areas, but not on a world scale. Now the abolition of distance has made that not only practicable, but, in view of the bomber plane and totalitarian warfare generally, urgently desirable.

And, coming now to my second point, there has been a stupendous increase in our power of releasing and utilising material energy in these past forty years. In 1900 man's world was a world of comparative insufficiency. It was for the great majority a world of toil, of competition and almost unavoidable social inequality. To-day it is a world of overwhelmingly abundant material energy. The need for mere

human toil dwindle^s rapidly towards a vanishing point. There is no more use for human beings who are unskilled or merely trained and skilled for some particular job; they have also to be intelligently adaptable to an ever-changing world. Fewer and fewer human beings are needed to satisfy the demands of the consumer, limited as they are by the ideas about ownership and property and by the financial methods that have survived almost unaltered from the previous age. The conditions have changed completely, but we have hardly begun to change our methods of dealing with them.

What has been termed technological unemployment has become, therefore, the most pressing of social problems. Everywhere appears a surplus of young people, full of vitality, to whom our present world offers no prospect of a satisfactory life. They are available, therefore, for any mischief and any sort of leadership that has in it the faintest quality of promise and excitement. The past forty years has been mainly a history of the destruction of the old social and political order by the thwarted, discontented and misled young. The hooligans, the Apaches, the Moonlighters and anarchists of the closing years of the last

century have developed into the gangsters, the Ku Klux Klan and so forth of recent years. They have developed illegal organisations. They have allied themselves with politicians until their resentful terrorism has become nation-wide and world-wide. It is their blind revolt against frustration and their desire for leading that has released what is now the most monstrous war in all human experience.

The decaying, outdated social and political order in which we live has never foreseen this situation and never prepared a remedy. In America it said, "Go west, young man." But now the young man has reached the Pacific Coast and stares across the sea at the crowded islands of Japan. In Britain and Western Europe, we said, "Emigrate, emigrate." But now all the possible colonial areas are appropriated, and when the Germans demand *Lebensraum* their idea seems to be colonisation on the dead bodies of other peoples.

In the less abundant past, the pressure of the young men was not so great, a servile but sufficient life was open to them, and the little principalities and dukedoms relieved any surplus tension by warfare. Our rulers find themselves now with no better outlet than warfare, and they have permitted a slaughter of these

embarrassing young people to the tune of between three or four millions of them in a hundred days. But by itself this is only a temporary palliative for this social dislocation. The killing nowadays is not confined to young men, and the fall in human vitality affects the whole community. Population reduction by itself does not abolish the problem. In a smaller population with smaller powers of control, the proportion of unsatisfied young men will still be the same. Presently, when this idiotic shapeless war gives place to some equally idiotic and planless peace, we shall be confronted by this problem of young people without prospects on a still more formidable scale. Our society will be confronted by an entire generation untrained for anything but fighting—asking us, “And what will you do with us *now*? ”

What are our preparations for that emergency? I am told that Lord Reith and Mr. Greenwood are planning to reconstruct the world, and I have had some intimations of how the world is to be replanned. The only thing that seems definite is that something called ribbon development along our high roads is to be avoided. . . . Well? I submit that is likely to prove inadequate to the challenge of these

young people we have accustomed to nothing but killing. They will be coming back, these young men, impatient as only the young can be impatient, and they are going to ask, "What are you going to do for us—*this time?*"

What *are* we going to do for them *this time?*

Because of the abolition of distance and the onset of an uncontrolled abundance, the contemporary state becomes more and more like a worthy old ship which has played its part in the traffic of the world and has now been hastily chartered for a distant and dangerous voyage and fitted up with huge new engines quite disproportionate to the strength of its hull. . . . Which engines are manifestly knocking the old craft to pieces at a tremendous pace.

So far I have been repeating obvious facts to which for some reason the world even now is totally inattentive. But now let me turn to a third primary aspect of the human problem which is still almost completely disregarded in that jumble of loyal and partisan propaganda, prejudice and anecdote which is called "history" in our schools and universities. And that is this: the states and communities of the

present time are biologically different organisms from those that set the pattern for these antiquated histories of ours. They are like mammals, though we still treat them as the reptiles or amphibia from which they have evolved.

Compare, for instance, the England of Elizabeth and the England of to-day. First, consider the proportion of the age classes. The world of Elizabeth was a juvenile world; in spite of a vigorous selection among the babies and children, the tough survivors rarely got to seventy, and mostly died before fifty. Child-bearing and child-burying was the chief occupation of women. There was no dentistry, and when a man or woman lost a tooth, romance was over. Youth was indeed a stuff would not endure. Young Romeo we should have clapped into prison for making love to Juliet below the age of consent. The streets were filthy, there were a few water conduits, but no domestic running water. Ordinary citizens were dirty and stank. Men carried arms and used them in brawls and for self-defence. The temperament of the community was swift, gallant, superficial and reckless by all the standards of our huge modern democratic states.

Then consider the distribution of literacy in

those days. The mass of the population was totally illiterate. It mattered no more in collective affairs than dogs or cattle. It could be stampeded and induced to riot, but it knew nothing. Political decisions centred on the Court, and the Church and the Law supplied the Ministers of the Crown. King Edward's grammar schools were producing one or two abnormalities from the middle-class stratum, of whom a certain Mr. William Shakespeare was the most remarkable. Right up to the Napoleonic Wars the making of war and the organisation and control of trade and business were alike completely out of the reach of the general population. Those states and communities of the past had upper-class minds, and the bulk of the population had nothing you could call a mind.

Now all that has changed. Under the stress of the same forces that have abolished the mere toiler, literacy has percolated down until the entire community is informed and aware. There remains no class that is not awake and attending to what is going on. In this country you can find young men who have grown up on the dole, who have sat in public libraries and bought Penguin books until they are far better read than many of the young men in the old

school tie who still aspire to monopolise government.

We have in the England of to-day two kindred things that you would have failed to find even in a rudimentary form in the England of Queen Elizabeth—namely, advertisement and propaganda. Our school histories tell us nothing of the rapid development of mass production, mass selling and advertisement-carried newspapers in the past half century. They would offend great business organisations if they did. Yet it is a thing that every youth should understand. It is only now, in the full tide of totalitarian war, that we realise how tremendously this—this percolation of responsiveness—affects the entire human outlook. On the one hand, we have certain systems of old and seasoned humbug, organised commercial humbug, the humbug of soulless religious bodies, the humbug of rank and privilege, all far gone in decay; and they are in conflict with a crude realism of violence, of intimidation, of cruelty and lying. A war between humbug and brutalisation. That conflict corresponds only very roughly with the formal boundaries of the belligerents. Not completely. Athwart the battle there is the struggle of an intelligent minority to extract a rational conception of life

from the confusion. That is the state of the world-mind at the present time, and that is why the ultimate decision of human destiny lies in this propaganda war.

Now I will allude only very briefly to the plain common sense of the human situation. Manifestly, if there is to be any peace on the earth henceforth, there must be a federal control of the air and of the material of international transport. Next we have to rescue our planet from devastation by ruthless political and mercenary appropriation, and that we can do by adopting Mr. Gifford Pinchot's project for the Federal Conservation of World Resources. Thirdly, we have to impose as a fundamental law upon earth a plain Declaration of Human Rights that will ensure for every man a fair participation in these resources, and a sense of responsible ownership in our planet. These are the obvious threefold imperatives that stare *Homo sapiens* in the face.

These triple imperatives are so plain that I will not insult my readers by arguing about them. But what is not so plain is the reason why these imperatives are treated as platitudes or unattainable absurdities by the mass of people everywhere, and why we seem powerless to get them over to the world-mind. The

immediate answer is that there is no world-mind as yet, but only a vast dementia; that directly you pass out of our comparatively enlightened circles, you pass into an unprogressive incoherence, a clamour, that cannot realise the fate that closes in upon it. And that is why I am asking you now to scrutinise the nature and quality of a possible world-mind, and to ask yourselves whether we scientific workers and writers, who have a certain claim to be considered the intellectual prompters of mankind, have really done our full duty in this matter of human inter-communication.

Now I propose to invoke a ghost—here and now—to take part in this discussion. But it will not be the ghost of anyone past and gone. *This* ghost is a far more formidable spirit than the poor, uneasy, unburied, unavenged wraiths from former times. The ghost who is with us now, who stands beside me now, challenging our pretensions, appealing to our energy and courage, is the New World Order, whose very existence depends upon us.

“You talk,” says our Visitant, “of a New World Order. Plainly that is impossible without a world-mind. And a world-mind demands a language in which men can exchange ideas

from one end of the federation to another.
What are you doing about that?"

We are doing so little about that, that even in an assembly of scientific workers, when we begin to discuss it, we shall probably revive a lot of nonsense that we ought to have jettisoned long years ago.

For example, people can still repeat in a sleepy, mechanical way that this minimum of rational world order will rob this wide world of some beautiful variety that exists at the present time. "Such dreadful monotony!" they say.

I ask them to look at the world at the present time and realise how imaginary this pretended variety is. All over the world, from China to Peru, they will see the mass of young men wearing almost exactly the same uniforms, undergoing the same drill, and every city undergoing a parallel transformation with anti-aircraft batteries, blimps, underground shelters and so forth. And wherever they go, east or west, they will find that chain-shops, controlled stores and standardised production have already been reducing mankind to the same dead level of everyday living. They live in the same sort of houses, wear the same sort of clothes, eat the same flabby foods and upset themselves with the same advertised medicines.

Wherever a beautiful local art has flourished, the uncontrolled big business salesman has cornered and put up the price of its material, its dyes, its tissues, its metal or what not, and imitated and vulgarised its output. So far from a Federal Conservation of Natural Resources and a Declaration of Human Rights and Dignity exaggerating the flattening-out of mankind, it would go far to protect and restore the reality of these national differences. World federation, not merely political world federation, but carried into the economic and legal spheres, means security for local differences throughout the whole world.

And now particularly in this matter of language. We need a common language in which the universal interests of mankind can be discussed, a common medium for political, scientific, philosophical and religious inter-communication; it has to be a great and flexible common language, but that does not preclude anyone and everyone from being bilingual, or, for that matter, polyglot. In various parts of the world in that recent past of warring monarchies and foreign offices from which we must now escape or perish, the suppression of language was an attempt of aggressive governments to devour and assimilate alien peoples,

and naturally it provoked a resistance to the use of the language of the aggressive power. It became a point of honour not to use the imposed language. But directly such attempts to stamp out languages cease, the objection to giving the world-mind a world-language disappears. I imagine that all over the world people will resort to a little language, a mother tongue, a language for endearment and old jests and intimate poetry and close personal intercourse. And there is no reason why the universal language, so long as it is universally understandable, should not be spoken with a considerable variety of accents and intonations. I fail to see how the demand of our Visitant from the World to Come for a universal language stands in the way of the vigorous culture of ten thousand localised languages—the more the merrier—so soon as they are liberated from their accidental association with political mischief.

And now let me come to the gist of my matter, which is to ask whether we—and by we I mean the sociologists, the human ecologists, this broader Division of the British Association, the world intelligentsia and our sort of people generally—are really doing our duty, that is to say, our utmost, to clear up this

problem of the methods and organisation of this world-mind embodied in a world language. It needs to be done, urgently, and we alone can work out a clear and definite scheme for the doing of it. What have we really worked out in this matter? What have we got ready so that there can be no dispute about it? So far as my enquiries go, we have nothing but only a lot of loose, undigested stuff, happy thoughts, and the sort of unstimulating stuff that people listen to with edification, declare to be extremely stimulating, and think no more about.

I realise that a number of us are beginning to doubt if this is good enough, and to demand with increasing urgency that we pull ourselves together.

The amount of pulling together that goes on in these various fields of human activities which we lump together as the sciences varies very widely. In the field of engineering and physical work generally, in medical science and chemistry and in astronomy, there is a very great amount of pulling things together. We do not find people building dams or making bridges or writing prescriptions or reporting some new celestial phenomenon on the basis of a few disconnected and unverified notions, an ideal-

istic aspiration, and a highly stimulating remark or so. In these fields, if a man reports an observation or draws an inference, it is at once checked, control experiments are made, and what he says is either confirmed or disproved or corrected. His raw stuff is not allowed to encumber the record. Year by year, these branches of science that report progress, go on from strength to strength.

I saw the great Lick telescope in the making at Pasadena the other day, and it seemed to me a most elaborately thought-out and gigantic undertaking. It came near to being awe-inspiring. In that place I felt like a pygmy in the presence of a gigantic will and wisdom. And yet, you know, making that telescope is not nearly so important a business as our business of co-ordinating the thought and purpose of mankind.

What have we to set before our Visitant and the world?

Long before I was born, this question of a universal language was occupying men's minds, and a number of so-called auxiliary artificial languages, Esperanto, Ido and the like, have been devised. They have consumed a certain amount of mental energy and developed considerable organisations, so it is possible for a

Japanese Esperantist to travel to Peru or Norway or South Africa and discourse with one or two kindred specialists. But it will not help him in the least to talk to the other people in the country. It is like belonging to a world chess association. It reminds one of those mysterious moths who find their mates across enormous distances. But what it has to do with general human inter-communication I have never been able to discover. It becomes plain that we, whose business it is to provide schemes and patterns and ascertained facts for the world as a whole, might long ago, if we had that disposition to pull things together which is characteristic of the more effective sciences, have cleared up this discursive confusion of all these artificial language projects, have worked out the social conditions that made them hopeful or hopeless, and settled what, if anything, we had to put before our now very impatient Visitant.

Parallel with these exercises of the human mind, there is a widespread disposition to consider the possibility of using one of the existing world languages, in a simplified, extended and mitigated form. A very considerable amount of discursive and unco-ordinated work has also been done upon this proposition. The Basic

English experimentation, with which we associate the names of Ogden, Richards and others, has been extremely valuable in this field. On the whole, the weight of opinion is in favour of using English as the substantial basis of a world language—I do not say as a world language, but as the substantial basis of a world language. Its world-wide extension at the present time, its freedom from inflections and grammatical complications, its capacity for assimilating alien words are all in its favour. Against this we have to set that obstinate and unadventurous upper-class conservatism which still plays so large a part in British educational traditions, which is intensely classical and exclusive in its spirit, and which is not simply unhelpful, but stoutly obstructive to any such extension.

It is plain for one thing that before the English language can be proffered to the World of the Future, its spelling has to be reformed. It is not simply plain now; it has been plain for some time; but here we are now with the Urgent Future present in our midst, and what have we got ready for it? Here again is an immediate demand for us to pull things together, and insist upon some definite decisions.

All sorts of schools of spelling, all disregarding each other, come on to my desk and pass, struggling fiercely, into my wastepaper basket. There is to begin with the Josh Billings school, which, for some obscure reason, possibly financial, insists upon using the twenty-six letters of our alphabet and no more. The effect upon me, I must confess, is highly suggestive of a letter from a drunken illiterate. Manifestly our alphabet does not cover much more than half the sounds possible for international communications. But directly we pass to the question of phonetics, we find a wilderness, a neglected jumble of discordant growths.

In this matter, as in most matters, I speak without special qualification, but in my time I have had the benefit of much conversation with two very gifted men very keen on this matter, Sir Harry Johnston and Mr. Bernard Shaw. Shaw has a quick ear and a phonetic obsession. He knows infinitely more than I do about it. And he says that, for an alphabet to cover world needs, about forty-one characters are needed. That must be something very close to the truth. But have *we* done anything to pull this business together and create a world alphabet, to bring a standard fount into existence and put it into operation? Obviously we

want letters of a distinctive character, we want letters that will not be confused with one another or with ambiguous letters already in existence. We don't want a letter that is already B in one language and F in another, a C which is a K in one language and S in another, we don't want a single letter E which combines brisk little *eta* with dignified *epsilon*, and so on. All that is plain common sense. But how much have we done and what are we doing about this?

In all the various phonetic projects that come to your attention, you will find the most miserable stopgap contrivances to convey phonetic ideas. Current letters are printed upside down and prone and supine, Clarendon and italics, mathematical symbols and mad-dened punctuation marks, are called in to assist the lower case in its painful labour. The exigencies of printing with limited resources make most of these phonetic alphabets—ridiculous. Nevertheless, a phonetic alphabet remains a fundamental necessity before a world-mind can come into being. Here again is a big job of pulling things together to be done.

And now let me come to another aspect of this possibility of a world-mind. We have

another important but at present uncoordinated movement in the research for significs or semantics. We are finding out some of the tricks that words can play upon us. Such books as *The Tyranny of Words*, for example, are awakening numbers of people to a closer scrutiny of the word material that has betrayed them into the illusion that they were thinking and interchanging ideas when they were really exchanging out-of-date obliterated coins that ought to be withdrawn from circulation. I will not mention names and distribute bouquets here, simply because I do not know this work clearly enough to determine Who's Who in this fundamentally important field. But I know enough to realise that the vocabulary we use, in this language which English speakers offer to the world-mind as its best possible vehicle, is a big impostor, a giant as useful almost as Tristram Shandy's bull, an impudent impostor swaggering over our minds in an imposing armour of burnished platitudes. Its main excuse is that on the whole it is not so bad as the other possible world languages.

Let me take one instance of the mischief our slovenly use of language causes us. For the best part of a century people have misunderstood and distressed one another by talking about the

conflict of science and religion. It has caused mental misery, persecution, and suppression, and it still evokes abundant mischief. You might just as well talk about the conflict between natural-grown wild flowers and wall-paper. Yet you will find plenty of people who will fly out in a state of excitement and declare, "Oh! *everybody* knows what we mean by science and religion."

Hardly any of us know, or we should never have had this ridiculous antagonism. For my own part, I find the word "science" a most misleading word, with a flavour of arrogant finality absolutely opposed to our real activities. The primary scientific publication in England was the *Philosophical Transactions*. If you had been an original member of the Royal Society and had talked of "science" or "scientists," nobody would have understood what you meant. And the word "religion" is still more ambiguous. You could collect a dozen contradictory definitions of these words without much difficulty. You see how inevitable the trouble was.

What happened in this misnamed conflict of religion and science was very simple. The priestly organisations that have directed and controlled associated human behaviour in the

past thought it necessary to have a mythology to explain the moral conflict in mankind, and they bound up their moral direction almost inseparably with that mythology. They guessed, and they guessed like primitive people. They invented a Creation, and they found a particular date for it, they made a story of Paradise, a Sin and a Fall, and they built a vast and complex system of human direction upon that—making faith in this mythology a vital part of religious life, and disregarding many of the essentials of the religious life in the process. Most religious conflicts and wars and persecutions have turned upon questions of definition. Think of the blood that has flowed because of the words, *filioque*. The Athanasian Creed is a fantastic essay in intolerant definition.

With the development of natural philosophy, this ancient artificial mythology began to be questioned. A new history of *life in time* broke upon the human consciousness, and the priests of the priestly religions found their authority and the dogmas, their cardinal ceremonies, and their whole control of human life assailed by these new realisations. They could not allow themselves to believe that a religious life was possible without their cherished mythology, and, quite naturally, they did their

utmost to persuade the decent, simple-minded people who believed in them that this new knowledge meant the end of all religion. They must not listen to it; they must not have it taught.

But, in truth, the broadening realisation of the great past and the still credible possibilities of mankind is not so much the end of religion as its rebirth. But how that one ill-conceived, loosely defined phrase stands in our way! How heavily we pay for careless, uncritical speech! In a world hungry for a world religion to bind us to our fellow men, we still have no systematic recognition of that hunger but these dead religions, as dead and unsatisfactory as the dead languages to which they cling. Just as the financial and proprietary interests and habits that come down to us from the dead past fight against the manifest need for a world conservation of resources, just as the limited national boundaries and governments fight now to the death against a federal world peace, so do the great organisations of the dead religions, these people who have said in their hearts, "There is no God," while insisting openly upon a monopoly in His name, seize upon any possible mental confusion to obstruct that parallel development of knowledge and

religious solidarity of which our world stands in such manifest need to-day.

Here again is something we need most urgently to pull our minds together *now*, and plainly the critical scrutiny of meaning has to be incorporated as speedily as possible into the language teaching of our schools and colleges. As a boy, I only began to understand the use of language with the analysis of sentences. Now we have to add to that sort of training the analysis of meaning. We want to train our young people everywhere to ask, "What do these terms I am using say? What are they trying to say? And what aspects of false suggestion are hanging about them?" Inoculated with semantics, our children may be very largely immunised from the copious balderdash that now keeps the world in its present dementia.

And now let us consider another line of approach towards the organisation of a rational world-mind.

We want to bring together and keep together a world-wide memory organisation for this world-mind. It must not only speak clearly and think clearly, but it must have ready and world-wide access to all that it has learnt and thought and is learning and thinking.

Here again there are a number of movements afoot which need only a vigorous pulling together to provide the material structure, the recording cells, for this factor in a world mentality.

It would be a grave undertaking to give a complete list of what has been done and is being done in this field. It is much more than many intelligent people realise. The point I want to make now is that we are now in a position to gather up all this matter and all these activities and give them the advertisement, the sort of prestige that will attract endowments and justify public support. I have made some, I fear, rather journalistic clumsy and unattractive efforts to get this material together in my own mind. I have used the term "world encyclopædia" to cover the whole field of assembled specimens and thought, art and knowledge material. That would mean much more than that antiquated, ill-planned, and defective *Encyclopædia Britannica* which still holds the market. It would include all the museums, art galleries, libraries, muniment rooms, atlases, surveys in the world. At that level it is a vast, dispersed—or shall we say imperfectly assembled?—largely inaccessible wealth of knowledge, and our first line of attack

has to be the indexing of this primary material.

Along one line a lot of work has been done under the general name of "documentation." I know of it chiefly through Professor Pollard, Dr. S. C. Bradford and their associates. Its organisation is almost as international as the British Association. Recently they were in conference here in London with delegations drawn from a great number of countries, and at the time of the last Paris Exposition I was privileged to attend a gathering of these workers drawn from over thirty nations. In the more systematic sciences a considerable amount of overlapping and vain repetition has already been avoided, and documentation is steadily extending the range of its invaluable cataloguing.

Parallel with this work is the effort to put as much as possible of this gross accumulation on record, and stow the record out of harm's way during the storm of blind destruction in which we are living. For this purpose microphotography has become more and more available. Here again the most exciting and promising work is being done by my old friend Dr. Kenneth Mees of the Kodak Company, and by Watson Davis of Washington Science Service. The contents of a whole library can be

condensed into a small box, and a considerable part of early English literature has already been condensed and made portable and safe in this fashion. It is possible now to do this work of record in natural colours. Every picture and building and machine and animal in the world can be shown in its own proper colours and movements, and, since there is no absolute limit to the reproduction and distribution of this stuff, these films can be sent out after the fashion of a circulating library to students in every part of the world. This is the abolition of distance on the intellectual plane.

This, mind you, is not what people sneer at as imaginative fiction. This is work actually in hand which needs nothing but money and organisation to cover the whole range of human thought and knowledge. This is what can be done *now* in the way of pulling together, with what I will call the gross mental accumulations of mankind.

But that is only one, the basic aspect of a world encyclopædia. That gross accumulation has to fructify, and to ensure that we need to subject this stuff to a continual process of *digestion*. A world-mind needs all this stuff for record and reconsideration, but a lot of it is repetitive or false or misleading or merely discursive and

curious or superseded by better efforts at expression, or apparently quite insignificant. Don't destroy it. Leave it there in the attic. We may want it, but for the workroom of the world-mind we want a general and particular digests, and for that we need hundreds of thousands of workers continually bringing up to date and replanning these general and particular summaries. These are what we usually think of when we say "encyclopædias," and if I had my time over again I would certainly drop that term "world encyclopædia" and replace it by "world institute of thought and knowledge."

We have already a number of special encyclopaedias of very considerable value, but for a long time the general encyclopædia made no very great advance on the hundred-year-old pattern. They were subjected to an extreme commercialisation, and it is hardly unjust to describe them as collections of miscellaneous material slapped together according to the ideas of a book salesman. But France—may she live for ever!—has done something better than that. The de Monzie *Encyclopédie* which she was producing up to the time of her submergence was a magnificent attempt to create an orderly modern outlook upon the world. I have the

first eleven volumes and some day I hope to have the whole. I took it to a most respectable English publisher on a large scale, and asked him why we should not translate it and extend it for the use of our two hundred and fifty million or more English-speaking, English-reading people. "I don't think we could make it *pay*," he said, and closed the discussion. That was that. That was his final test. It is for our Association to hammer at the supreme necessity of this modern encyclopædia until it can be produced under conditions that will liberate it from the tyranny of the sales chart.

I will not indulge in sketching out how this continually revised and modernised general encyclopædia would be the basis of the general education of the world community. There amazingly little has been done. Even in those pretty and attractive village colleges they have produced in Cambridgeshire, where every prospect pleases, most of the books—and the books of reference in particular—are vile. Try any of these places and imagine you are a youngster of twelve or thirteen greedy and prowling for knowledge, and see the stuff you will get. I think most educational authorities would be all the better if they would play at times at being an active-minded little boy who wants to

know about things, and see what is available for him in an industrial centre or a country village. After all, the whole of education exists for that curious-minded boy—or girl. He or she is the only live reality beneath all our caps and gowns and degrees and honours and pretensions.

The population of the world is said to be two thousand million, and brute toil has become an absurdity. We have to educate all that population for unity. Think what that means! For every two thousand people, even with the fullest use of radio, gramophone, screen, we shall need—how many intelligent teachers? How much mental healing and help? How much equal mental service? But these are matters that you can work out better than I can.

I have tried throughout to keep to sober reporting in this paper, but, as we are all beginning to realise, the sober reality of the human position remains not merely sober, but grim, and not merely a common-sense affair, but by all former standards dismaying monstrously.

I have tried to state something like a conception of the giant enterprises that people of our sort, and people of our sort alone, are

called upon to attempt at the present time. We have in our British Association and particularly in its Division for the Social and International Relations of Science, we have in this and its kindred associations throughout the world, the makings of a great international for pulling our scatterbrained world together into a sane effective mentality. Its constitution is a loose and happy one. Its various sections provide the possibilities for the most highly specialised exchanges between men engaged in definite research. At the same time, its doors are open to every intelligent outsider who cares to listen and learn. It has none of the aristocratic aloofness of the Royal Society. My old teacher, T. H. Huxley, used to say that his course of elementary lectures to his students was his most valuable exercise, because it obliged him to review his own particular research work in relation to biology as a whole and to the whole spectacle of life. Through an organisation like the British Association and its correlated bodies, the specialist can teach and learn and yet remain human. He can remain an organic factor in the world-mind.

We are few, and the world is comparatively great. That is no reason for faint-heartedness. The greatest things in life began as germs. We

are the small beginning that may start a mental avalanche that will clean the world for a new beginning. We can start it, and, if we do not do so, it will never be started. Only our sort of people can do it.

"Dreams!" some of you will say. "Impracticable dreams."

Perhaps they are. Very possibly impracticable. But I tell you that if you will not share in this dreaming, if you will not, in the dwindling time that remains to us, do your utmost to realise this dreaming, then, instead of your going out to make a dream come real, fresh nightmares will overtake you, you and yours and all you care for.

I do not know how it feels to belong to a species that is failing to adapt. I have lived my seventy-five years in an ascendant phase, but I should imagine our children and our children's children and all the young life about us will pay pretty bitterly, in ignominy, in privation, in straitened unwholesome lives and general brutalisation, as Nature, without haste and without delay, after her manner, wipes them out.

I might end here. It is an effective end, effective from the literary point of view, but it is not altogether justifiable. This is the trend of

things. The trend of things is still, I think, towards disaster and extinction, but before we can be more definite than discussing trends, we have to deal with two most difficult things, quantitative estimates, time estimates and the still barely observed processes of mass psychology. We may be heading for an indeterminate phase of lassitude, and for half-hearted and insincere religious wars. When I say religious wars, I mean, of course, crusades and plunder wars waged in the names of those dead religions that cumber the world to-day. A dead religion is like a dead cat—the stiffer and more rotten it is, the better it is as a missile weapon. Such disorders and the fluctuations they may cause may give obstinate reasonable men, sometimes here, sometimes there, opportunities for this perennial task of working out the framework of a world-order with a world-mind. That is no justification of delay, but it justifies us in mingling hope with our determination to carry out the inescapable task which our Visitant from the Future demands of us here and now.

I will not apologise for having written an entirely unoriginal essay. I have not suggested a single thing that is not already being tried and worked upon and demonstrated as possible,

even my general idea of pulling things together is a mere echo of the creation of the Division of the British Association for the Social International Relations of Science. My function has been to state and underline. I am a sort of B.B.C. announcer. I have just been summing up. This is the 1941 news from the scientific workers of the world, and this is H. G. Wells reading it to you. This is the essence of what the world of scientific workers has to say to the world. And we have to say it firmly and clearly. We intellectual workers have to decide whether we are to be like Greek slaves and do what we are told by our masters, the gangsters and profiteers, or whether we will take our rightful place as the servant-masters of the world.

THE foregoing I had prepared to deliver as an introductory address to the final session of the section on "Science and the World Mind" at the conference convoked by the British Association for the Advancement of Science in London on September 27th, 1941, at which session I was invited to act as Chairman. In that address I did my best to summarise the whole problem of the world-mind and to bring its many divergent factors into some sort of general scheme of action to which the British Association could lend the weight of its authority.

I felt that an assembly like that over which I was to preside offered an unique opportunity—one that might not récur—to work out this co-operation in human leadership, the lack of which, as I insisted in my paper, is the essential evil confronting us. All sorts of fine ideas and constructive experiments are going on; but where there are contradictions we—and by "we" I mean the world of science in the widest sense as it is represented by the Association—have not yet got together in any effectual

way to work them out. We are too individualistic. We do not listen to one another in order to get to a common understanding. One man talks about this aspect and another concentrates on that, and the algebraic sum of our directive influence upon the world is inconsiderable.

"Cannot we get this great task put in order before we disperse?" I asked. Sir Richard Gregory, in his address at the opening session, had already shown that to do this is a possibility; that it is possible to do something effective to fix our maximum agreement, and that in the final session we might underline and get a good deal out of his suggestion.

We had a good deal of discussion behind the scenes before we got this problem into shape. When I told our organisers that I wanted to open our deliberations with a paper that might occupy three-quarters of an hour or more, they told me it was impossible. Since my address was designed as a synthesis and summary, I protested with considerable emphasis. They were working under novel conditions and under considerable stress, but it seemed to me they were in danger of producing exactly the sort of thing against which my paper was aimed: that is to say, unco-ordinated statements and

declarations that would take us altogether nowhere. I found our President in complete agreement with me on this point. He agreed we should overlap; we should waste time in overlapping. We might contradict each other, and there would be no time to clean up our differences.

But the organisers of the Conference were in a difficult position owing to a great number of papers and limited time, and so we came to the compromise of having my address mimeographed and handed to those who were to take part in the discussion at the last afternoon's session or who wanted to read it, hoping that later this paper of mine might be printed. In its place, in a fifteen minutes' opening address, I was only able to recapitulate the chief points of my original paper and add a few remarks relating to the discussions of the previous two and a half fruitful days during which the Conference had been meeting since it was written.

Bernal, for example, used phrases so identical that for the moment I thought he must have read it. But we have had a lot of talk together and the phrases were ours—his just as much as mine. And I have heard a number of speakers, Professor A. V. Hill, Mr. Maisky,

J. B. S. Haldane, for example, saying more vividly and effectively points I have tried to make. I added:

"If I had my time over again I should certainly have modified my address in the light of several important communications to which we have listened. I think a number of us were profoundly impressed by Sir John Orr's attack upon the world problem, as one of nutrition. That was a new angle, and it ought to have a particularly stirring appeal to the American farming interests at the present time. Sir John Orr was illustrated, so to speak, by several papers, of which I found Sir John Russell's and Mr. Noel Baker's among the most vivid. Sir John Orr has the lucidity, simplicity and power of the scientific mind at its best. Of all the admirable papers we have heard, his, I think, was the freshest and most valuable. You need no forcible feeding for human beings, he told us: put the best within reach of them and they will take it. His thought, let me point out, evidently did not end with material food.

"Dr. Jennings White has been writing some excellent sense about education. In this respect, at any rate, he says there is no separating line between mind and body. Put the stuff fully

and abundantly before the naturally curious and intelligent healthy human being, and there is no need for the unattractive cramming that we have called 'education.' He has adopted the old medical term 'eutrophy' to replace 'schooling,' and I confess I find it a most attractive word. We are, I hope and believe, turning our minds and our wills towards a eutrophic world.

"Another thing I have learned from these past three days, and one which I should certainly have modified my address to include, is the power of material necessity over human activities, prejudices and traditions. One material necessity that has dominated collective behaviour everywhere in the past third of a century is the necessity of controlling rainfall and of conserving soil and water power. The Dnieper Dam is a very present tragedy in our minds. But every form of government has to dam. Communist Russia is at one with individualist America, and when Lord Hailey—who has the paternalist administrative mind at its best, and seemed to be quite unaware that the British Empire was broken up by the Statute of Westminster some considerable time ago—when Lord Hailey surveyed Africa and our responsibility for Africa, the same physical

necessity was apparent. It is plain from the excellent account we were given of the Tennessee Valley Administration that the dam—that is to say, technical science—revolutionises human life. It was interesting to hear Professor Alvin Hansen arguing that for all that, elaborately protected financial profiteering in housing, for example, might still go on, but I think most of us agree that Mr. H. P. Vowles, in his excellently documented criticism, took all the probability out of that suggestion. Man, if I may say so, is going to be dammed for his own salvation.

"You see, you can approach the world problem from a number of separate points, according to your mental temperament. All roads lead to the federal world state. The protection of mankind from any more *Blitzkriegs*, for example, is the line of my approach; but you can also approach it from the point of view of conserving natural forces, or from the point of view of nutrition. If you follow up your start, after the fashion of a good scientific mind, arguing out every implication and never wandering off into side issues, we meet at last, all of us, upon the same human outlook. I have seen various symbolic figures representing science—mostly appetising ladies

very carelessly dressed. For my own part, I would prefer to represent the scientific mind as a bull terrier which never loosens his grip except to improve it.

"I, at least, must not become discursive. It is our business to be practical. It is our business to join things up, and so I welcome Sir Richard's idea of appointing special committees to consolidate what has been said in this and previous discussions, and to present a report giving the matured scientific view upon these matters, provided only that these committees are not too large, that they set to work at once, and that they concentrate upon producing their report.

"In my paper before you I refrain from all idealistic or imaginative utterances. It is a practical survey. From first to last, it is an abstract.

"Since the days of Buddha and Confucius, there have been very many noble and beautiful things said about freedom, truth and the equal brotherhood of man. We are, I am told—not always on the best authority—saturated with these ideas, and our business is to give them a material body. That is a more difficult matter. The practical liberation of the world-mind began not with any of these great aspirations.

It began with the invention of paper and of printing from movable type. Invention and discovery are the true liberators. That is our sort of work, and the less we dilute it with rhetoric and the less we wander away into the wilderness of disconnectedness the better it will be.”

APPENDIX I

THE CHARTER OF SCIENTIFIC FELLOWSHIP

It must be admitted that the subsequent discussion did not "pull things together" with the vigour for which Mr. Wells was pleading. There was an erudite, delightful but irrelevant discourse upon "auxiliary languages," an issue already disposed of in the address, and an equally irrelevant attempt to sum up the proceedings of the entire Division. This cramped the time of the other speakers. Dr. J. Needham was cut short very regrettably in an already concentrated paper that really dealt freshly and vigorously with the idea of a world-mind, and Professor Max Born also reformulated the idea and linked it with the interpretation of the Atlantic Charter. Dr. J. Negrin came closer to the spirit of the address in his insistence upon the discontinuity of human progress, and the fact that we were living at present in a phase of "tremendous mutation." Mr. Wells then made way for Sir Richard Gregory, who discussed the methods by which special committees might implement Mr. Wells's suggestions, and then put before the gathering his proposed New Charter of Scientific Fellowship, which follows.

THE COMMONWEALTH OF SCIENCE

"Intellectual freedom is an essential condition of progressive human development. Throughout the ages, individual scientific workers have been forced to fight and to suffer in order that life and intellect may be preserved from the effects of unreasoning prejudice,

stagnation and repression. To-day they feel compelled to proclaim their special responsibility in the struggle against any subjection which would lead to the betrayal of intellectual liberty.

"The war now devastating our world involves an age-old conflict of ideas. Liberal minds of the last generation were convinced that the battle for independence of thought and free expression of opinion was finally won; yet once again this conviction is being violently assailed. The fight to maintain it must perforce be resumed, for the danger of losing the heritage of freedom seems graver than ever before.

"During the past third of a century, changes in the conditions of life have come about, more profound than any in human history. Distance has been virtually abolished; cognizance of events has become simultaneous throughout the world; all men have become neighbours. Fresh discoveries open up undreamed-of potentialities for good or for evil, but their proper use demands correspondingly high ethical standards.

"While only a century ago the village was an almost self-sufficing unit, to-day the world is our unit. To such a disturbing change of outlook and obligations, we are not yet attuned, and we must readjust our way of living, for only by the fullest and freest adaptation of ideas to new conditions can this readjustment be achieved. Intense mental effort and clear vision are now needed.

"In the past, freedom for the written and spoken word was desirable; to-day, complete freedom of thought and interchange of knowledge and opinion are supreme necessities. Full freedom of expression is the very essence of science as well as democracy: where thought is enslaved, science, like democracy,

witheres and decays. Men of science must, therefore, declare clearly and emphatically the principles which underlie their beliefs and guide their conduct.

"Accordingly, the principles of the fellowship of science are here affirmed; and it is maintained that any policy or power which deprives men or nations of their free practice convicts its agents of an iniquity against the human race.

"Declaration of Scientific Principles

"1. Liberty to learn, opportunity to teach and power to understand are necessary for the extension of knowledge, and we, as men of science, maintain that they cannot be sacrificed without degradation to human life.

"2. Communities depend for their existence, their survival and advancement, on knowledge of themselves and of the properties of things in the world around them.

"3. All nations and all classes of society have contributed to the knowledge and utilization of natural resources, and to the understanding of the influence they exercise on human development.

"4. The basic principles of science rely on independence combined with co-operation, and are influenced by the progressive needs of humanity.

"5. Men of science are among the trustees of each generation's inheritance of natural knowledge. They are bound, therefore, to foster and increase that heritage by faithful guardianship and service to high ideals.

"6. All groups of scientific workers are united in the fellowship of the Commonwealth of Science, which

has the world for its province and the discovery of truth as its highest aim.

"7. The pursuit of scientific inquiry demands complete intellectual freedom and unrestricted international exchange of knowledge; and it can only flourish through the unfettered development of civilized life."

APPENDIX II

THE RIGHTS OF MAN

For those who have not the text before them, we append the Sankey Declaration of the Rights of Man in its final form. Article 6 has been revised in order to define "production for profit" more precisely:

THE SANKEY DECLARATION OF THE RIGHTS OF MAN

Introduction

Within the space of little more than a hundred years there has been a complete revolution in the material conditions of human life. Invention and discovery have so changed the pace and nature of communications round and about the earth that the distances which formerly kept the states and nations of mankind apart have now been practically abolished. At the same time there has been so gigantic an increase of mechanical power, and such a release of human energy, that men's ability either to co-operate with or to injure and oppress one another, and to consume, develop or waste the bounty of Nature has been exaggerated beyond all comparison with former times. This process of change has mounted swiftly and steadily in the past third of a century, and is now approaching a climax.

It becomes imperative to adjust man's life and institutions to the increasing dangers and opportunities of these new circumstances. He is being forced to organise co-operation among the medley of separate sovereign states which has hitherto served his political

ends. At the same time, he finds it necessary to rescue his economic life from devastation by the immensely enhanced growth of profit-seeking business and finance. Political, economic and social collectivisation is being forced upon him. He responds to these new conditions blindly and with a great wastage of happiness and well-being.

Governments are either becoming State collectivism or passing under the sway of monopolist productive and financial organisations. Religious organisations, education and the Press are subordinated to the will of dictatorial groups and individuals, while scientific and literary work and a multitude of social activities, which have hitherto been independent and spontaneous, fall under the influence of these modern concentrations of power. Neither governments nor great economic and financial combinations were devised to exercise such powers; they grew up in response to the requirements of an earlier age.

Under the stress of the new conditions, insecurity, abuses and tyrannies increase; and liberty, particularly liberty of thought and speech, decays. Phase by phase these ill-adapted governments and controls are restricting that free play of the individual mind which is the preservative of human efficiency and happiness. The temporary advantage of swift and secret action which these monopolisations of power display is gained at the price of profound and progressive social demoralisation. Bereft of liberty and sense of responsibility, the peoples are manifestly doomed to lapse, after a phase of servile discipline, into disorder and violence. Confidence and deliberation give place to hysteria, apathy and inefficiency. Everywhere war and monstrous exploitation are intensified, so that those very same

increments of power and opportunity which have brought mankind within sight of an age of limitless plenty seem likely to be lost again, and, it may be, lost for ever, in a chaotic and irremediable social collapse.

It becomes clear that a unified political, economic and social order can alone put an end to these national and private appropriations that now waste the mighty possibilities of our time.

The history of the Western peoples has a lesson for all mankind. It has been the practice of what are called the democratic or Parliamentary countries to meet every enhancement and centralisation of power in the past by a definite and vigorous reassertion of the individual rights of man. Never before has the demand to revive that precedent been so urgent as it is now. We of the Parliamentary democracies recognise the inevitability of world reconstruction upon collectivist lines, but, after our tradition, we couple with that recognition a Declaration of Rights, so that the profound changes now in progress shall produce not an attempted reconstruction of human affairs in the dark, but a rational reconstruction conceived and arrived at in the full light of day. To that time-honoured instrument of a Declaration of Rights we therefore return, but now upon a world scale.

i. Right to Live

By the word "man" in this Declaration is meant every living human being without distinction of age or sex.

Every man is a joint inheritor of all the natural resources and of the powers, inventions and possibilities accumulated by our forerunners. He is entitled,

within the measure of these resources and without distinction of race, colour or professed beliefs or opinions, to the nourishment, covering the medical care needed to realise his full possibilities of physical and mental development from birth to death. Notwithstanding the various and unequal qualities of individuals, all men shall be deemed absolutely equal in the eyes of the law, equally important in social life and equally entitled to the respect of their fellowmen.

2. Protection of Minors

The natural and rightful guardians of those who are not of an age to protect themselves are their parents. In default of such parental protection in whole or in part, the community, having due regard to the family traditions of the child, shall accept or provide alternative guardians.

3. Duty to the Community

It is the duty of every man, not only to respect, but to uphold and to advance the rights of all other men throughout the world. Furthermore, it is his duty to contribute such service to the community as will ensure the performance of those necessary tasks for which the incentives which will operate in a free society do not provide. It is only by doing his quota of service that a man can justify his partnership in the community. No man shall be conscripted for military or other service to which he has a conscientious objection, but to perform no social duty whatsoever is to remain unenfranchised and under guardianship.

4. Right to Knowledge

It is the duty of the community to equip every man with sufficient education to enable him to be as useful and interested a citizen as his capacity allows. Furthermore, it is the duty of the community to render all knowledge available to him and such special education as will give him equality of opportunity for the development of his distinctive gifts in the service of mankind. He shall have easy and prompt access to all information necessary for him to form a judgment upon current events and issues.

5. Freedom of Thought and Worship

Every man has a right to the utmost freedom of expression, discussion, association and worship.

6. Right to Work

A man may engage freely in any lawful occupation, earning such pay as the contribution that his work makes to the welfare of the community may justify or that the desire of any private individual or individuals for his products, his performances or the continuation of his activities may produce for him. He is entitled to paid employment by the community and to make suggestions as to the kind of employment which he considers himself able to perform. He is entitled to profit fully by the desirableness of his products and activities. And he is entitled to payment for calling attention to a product or conveying it to consumers to whom it would otherwise be unattainable. By doing so, he does a service for which he may legitimately profit.

He is a useful agent. But buying and holding and selling again simply in order to make a profit is not lawful. It is speculation; it does no service; it makes profit out of want and it can be profitable only by creating or sustaining want. It tempts men directly to the interception of legitimate profits, to forestalling, appropriation, hoarding and a complex of anti-social activities, and it is equally unlawful for private individuals and public administrative bodies.

7. Right in Personal Property

In the enjoyment of his personal property, lawfully possessed, a man is entitled to protection from public or private violence, deprivation, compulsion and intimidation.

8. Freedom of Movement

A man may move freely about the world at his own expense. His private dwelling, however, and any reasonably limited enclosure of which he is the occupant, may be entered only with his consent or by a legally qualified person empowered with a warrant as the law may direct. So long as by his movement he does not intrude upon the private domain of any other citizen, harm, or disfigure or encumber what is not his, interfere with or endanger its proper use, or seriously impair the happiness of others, he shall have the right to come and go wherever he chooses, by land, air or water, over any kind of country, mountain, moorland, river, lake, sea or ocean, and all the ample spaces of this, his world.

9. Personal Liberty

Unless a man is declared by a competent authority to be a danger to himself or to others through mental abnormality, a declaration which must be confirmed within seven days and thereafter reviewed at least annually, he shall not be restrained for more than twenty-four hours without being charged with a definite offence, nor shall he be remanded for a longer period than eight days without his consent, nor imprisoned for more than three months without a trial. At a reasonable time before his trial, he shall be furnished with a copy of the evidence which it is proposed to use against him. At the end of the three months period, if he has not been tried and sentenced by due process of the law, he shall be acquitted and released. No man shall be charged more than once for the same offence. Although he is open to the free criticism of his fellows, a man shall have adequate protection from any misrepresentation that may distress or injure him. Secret evidence is not permissible. Statements recorded in administrative dossiers shall not be used to justify the slightest infringement of personal liberty. A dossier is merely a memorandum for administrative use; it shall not be used as evidence without proper confirmation in open court.

10. Freedom from Violence

No man shall be subjected to any sort of mutilation except with his own deliberate consent, freely given, nor to forcible handling, except in restraint of his own violence, nor to torture, beating or any other physical ill-treatment. He shall not be subjected to mental

distress, or to imprisonment in infected, verminous or otherwise insanitary quarters, or to be put into the company of verminous or infectious people. But if he is himself infectious or a danger to the health of others he may be cleansed, disinfected, put in quarantine or otherwise restrained so far as may be necessary to prevent harm to his fellows. No one shall be punished vicariously by the selection, arrest or ill-treatment of hostages.

II. Right of Law-Making

The rights embodied in this Declaration are fundamental and inalienable. In conventional and in administrative matters, but in no others, it is an obvious practical necessity for men to limit the free play of certain of these fundamental rights. (In, for example, such conventional matters as the rule of the road or the protection of money from forgery, and in such administrative matters as town and country planning or public hygiene.) No law, conventional or administrative, shall be binding on any man or any section of the community unless it has been made openly with the active or tacit acquiescence of every adult citizen concerned, given either by direct majority vote of the community affected or by a majority vote of his representatives publicly elected. These representatives shall be ultimately responsible for all by-laws and for detailed interpretations made in the execution of the law. In matters of convention and collective action man must abide by the majority decisions ascertained by electoral methods which give effective expression to individual choice. All legislation must be subject to public discussion, revision or repeal. No treaties or

Contracts shall be made secretly in the name of the community.

The fount of legislation in a free world is the whole people, and since life flows on constantly to new citizens, no generation can, in whole or in part, surrender or delegate this legislative power, inalienably inherent in mankind.